

Joelle Fitzgerald

## HIDS 505 Assignment 5 Virtual Private Cloud (VPC)

### 1. Creating Virtual Private Cloud (VPC) with custom subnet 'subnet-1'

Google Cloud | hids505-joelle | vpc networks | Search

**VPC network**

- VPC networks
- IP addresses
- Bring your own IP
- Firewall
- Routes
- VPC network peering
- Shared VPC
- Serverless VPC access
- Packet mirroring

**Create a VPC network**

**Name \***  
vpc-cb  
Lowercase letters, numbers, hyphens allowed

**Description**

**VPC network ULA internal IPv6 range**  
Enabling this feature will assign a /48 from Google defined ULA prefix fd20::/20.  
☐ Enabled  
☒ Disabled

**Subnets**  
Subnets let you create your own private cloud topology within Google Cloud. Click Automatic to create a subnet in each region, or click Custom to manually define the subnets. [Learn more](#)

**Subnet creation mode**  
☒ Custom  
☐ Automatic

**New subnet**

**Name \***  
Lowercase letters, numbers, hyphens allowed

**Description**

**Create a VPC network**

**Edit subnet**

**Name \***  
subnet-1  
Lowercase letters, numbers, hyphens allowed

**Description**

**Region \***  
us-east1

**IP stack type**  
☒ IPv4 (single-stack)  
☐ IPv4 and IPv6 (dual-stack)

**IPv4 range \***  
10.0.0.0/9  
E.g. 10.0.0.0/24

[CREATE SECONDARY IPV4 RANGE](#)

**Private Google Access**  
☐ On  
☒ Off

**Flow logs**  
Turning on VPC flow logs doesn't affect performance, but some systems generate a large number of logs, which can increase costs in Logging. [Learn more](#)  
☐ On  
☒ Off

Subnet name: 'subnet-1'

Region: us-east1

IP address range: 10.0.0.0/9

Private Google access: Off

Flow logs: Off

VPC Network: Regional

## 2. Creating firewall rules

VPC network

VPC networks

IP addresses

Bring your own IP

Firewall

Routes

VPC network peering

Shared VPC

Serverless VPC access

Packet mirroring

Create a firewall rule

HELP ASSISTANT

Firewall rules control incoming or outgoing traffic to an instance. By default, incoming traffic from outside your network is blocked. [Learn more](#)

Name \*

Lowercase letters, numbers, hyphens allowed

Description

Logs

Turning on firewall logs can generate a large number of logs which can increase costs in Logging. [Learn more](#)

☐ On

☒ Off

Network \*

vpc-cb

Priority \*

1000

CHECK PRIORITY OF OTHER FIREWALL RULES

Direction of traffic

☒ Ingress

☐ Egress

Action on match

☒ Allow

☐ Deny

Targets

Specified target tags

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HELP ASSISTANT

VPC network

VPC networks

IP addresses

Bring your own IP

Firewall

Routes

VPC network peering

Shared VPC

Serverless VPC access

Packet mirroring

Create a firewall rule

Firewall rules control incoming or outgoing traffic to an instance. By default, incoming traffic from outside your network is blocked. [Learn more](#)

Name \*

firewall-1

Lowercase letters, numbers, hyphens allowed

Description

Logs

Turning on firewall logs can generate a large number of logs which can increase costs in Logging. [Learn more](#)

☐ On

☒ Off

Network \*

vpc-cb

Priority \*

1000

CHECK PRIORITY OF OTHER FIREWALL RULES

Priority can be 0 - 65535

Direction of traffic

☒ Ingress

☐ Egress

Action on match

☒ Allow

☐ Deny

Targets

Specified target tags

VPC network

VPC networks

IP addresses

Bring your own IP

Firewall

Routes

VPC network peering

Shared VPC

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Packet mirroring

Create a firewall rule

HELP ASSISTANT

Targets

Specified target tags

Target tags \*

hids505

Source filter

IPv4 ranges

Source IPv4 ranges \*

0.0.0.0/0

Second source filter

None

Protocols and ports

Allow all

Specified protocols and ports

TCP

Ports

3389

E.g. 20, 50-60

UDP

Ports

E.g. all

Other

Protocols

Separate multiple protocols by commas, e.g. ah, sctp

DISCARD

### 3. Updating VM with new VPC

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?

Compute Engine

Edit joelle-vm instance

HELP ASSISTANT

Virtual machines

VM instances

Instance templates

Sole-tenant nodes

Machine images

TPUs

Committed use discounts

Storage

Disks

Snapshots

Images

Instance groups

Instance groups

Marketplace

Release Notes

Network performance configuration

Network interface card is permanent

Network interface card

Network bandwidth

Enable per VM Tier\_1 networking performance

Maximum outbound network bandwidth: 2Gbps

VM to Public IP: 2Gbps

Network interfaces

Network interface is permanent

Edit network interface

Network \*

Filter [type to filter]

default

vpc-cb

You can change either IP Stack type or Network and Subnetwork in a single edit. Save and edit again if you need to change both settings.

IP stack type

IPv4 (single-stack)

IPv4 and IPv6 (dual-stack)

SAVE

CANCEL

Successfully created firewall rule "firewall-1".

Network interfaces ?

Network interface is permanent

Edit network interface

Network \*  
vpc-cb

Subnetwork \*  
subnet-1 IPv4 (10.0.0.0/9)

To use IPv6, you need an IPv6 subnet range. [LEARN MORE](#)

You can change either IP Stack type or Network and Subnetwork in a single edit. Save and edit again if you need to change both settings.

IP stack type

☒ IPv4 (single-stack)

☐ IPv4 and IPv6 (dual-stack)

SAVE

CANCEL

IP stack type

- ☒ IPv4 (single-stack)
- ☐ IPv4 and IPv6 (dual-stack)

Primary internal IP

Ephemeral (Custom)

Custom ephemeral IP address \*

10.0.0.2

Alias IP ranges

+ ADD IP RANGE

External IPv4 address

Ephemeral

Network Service Tier

- ☒ Premium ?
- ☐ Standard (us-east1) ?

Public DNS PTR Record ?

☐ Enable for IPv4

PTR domain name

DONE

Network tags

Network tags

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Storage

Boot disk

Name	joelle-vm
Image	windows-server-2022-dc-v20230111
Size	50 GB
Interface type	SCSI
Type	Balanced persistent disk
Encryption type	Google-managed
Mode	Boot, read/write
Snapshot schedule	None

Deletion rule

